

## Safety & Environmental Enforcement, Interior

## § 250.422

times ensure that the cement placed behind the bottom 500 feet of casing attains a minimum compressive strength of 500 psi before drilling out of the casing or before commencing completion operations.

[76 FR 64462, Oct. 18, 2011, as amended at 77 FR 50892, Aug. 22, 2012]

### § 250.421 What are the casing and cementing requirements by type of casing string?

The table in this section identifies specific design, setting, and cementing

requirements for casing strings and liners. For the purposes of subpart D, the casing strings in order of normal installation are as follows: drive or structural, conductor, surface, intermediate, and production casings (including liners). The District Manager may approve or prescribe other casing and cementing requirements where appropriate.

Casing type	Casing requirements	Cementing requirements
(a) Drive or Structural .....	Set by driving, jetting, or drilling to the minimum depth as approved or prescribed by the District Manager.	If you drilled a portion of this hole, you must use enough cement to fill the annular space back to the mudline.
(b) Conductor .....	Design casing and select setting depths based on relevant engineering and geologic factors. These factors include the presence or absence of hydrocarbons, potential hazards, and water depths; Set casing immediately before drilling into formations known to contain oil or gas. If you encounter oil or gas or unexpected formation pressure before the planned casing point, you must set casing immediately.	Use enough cement to fill the calculated annular space back to the mudline. Verify annular fill by observing cement returns. If you cannot observe cement returns, use additional cement to ensure fill-back to the mudline. For drilling on an artificial island or when using a well cellar, you must discuss the cement fill level with the District Manager.
(c) Surface .....	Design casing and select setting depths based on relevant engineering and geologic factors. These factors include the presence or absence of hydrocarbons, potential hazards, and water depths.	Use enough cement to fill the calculated annular space to at least 200 feet inside the conductor casing. When geologic conditions such as near-surface fractures and faulting exist, you must use enough cement to fill the calculated annular space to the mudline.
(d) Intermediate .....	Design casing and select setting depth based on anticipated or encountered geologic characteristics or wellbore conditions.	Use enough cement to cover and isolate all hydrocarbon-bearing zones and isolate abnormal pressure intervals from normal pressure intervals in the well. As a minimum, you must cement the annular space 500 feet above the casing shoe and 500 feet above each zone to be isolated.
(e) Production .....	Design casing and select setting depth based on anticipated or encountered geologic characteristics or wellbore conditions.	Use enough cement to cover or isolate all hydrocarbon-bearing zones above the shoe. As a minimum, you must cement the annular space at least 500 feet above the casing shoe and 500 feet above the uppermost hydrocarbon-bearing zone.
(f) Liners .....	If you use a liner as conductor or surface casing, you must set the top of the liner at least 200 feet above the previous casing/liner shoe. If you use a liner as an intermediate string below a surface string or production casing below an intermediate string, you must set the top of the liner at least 100 feet above the previous casing shoe.	Same as cementing requirements for specific casing types. For example, a liner used as intermediate casing must be cemented according to the cementing requirements for intermediate casing.

### § 250.422 When may I resume drilling after cementing?

(a) After cementing surface, intermediate, or production casing (or liners), you may resume drilling after the cement has been held under pressure for 12 hours. For conductor casing, you may resume drilling after the cement

has been held under pressure for 8 hours. One acceptable method of holding cement under pressure is to use float valves to hold the cement in place.

(b) If you plan to nipple down your diverter or BOP stack during the 8- or

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12-hour waiting time, you must determine, before nipping down, when it will be safe to do so. You must base your determination on a knowledge of formation conditions, cement composition, effects of nipping down, presence of potential drilling hazards, well conditions during drilling, cementing, and post cementing, as well as past experience.

### § 250.423 What are the requirements for pressure testing casing?

(a) The table in this section describes the minimum test pressures for each string of casing. You may not resume drilling or other down-hole operations until you obtain a satisfactory pressure test. If the pressure declines more than 10 percent in a 30-minute test, or if there is another indication of a leak, you must investigate the cause and receive approval from the appropriate BSEE District Manager for the repair to resolve the problem ensuring that the casing will provide a proper seal. The BSEE District Manager may approve or require other casing test pressures.

Casing type	Minimum test pressure
(1) Drive or Structural .....	Not required.
(2) Conductor .....	200 psi.
(3) Surface, Intermediate, and Production.	70 percent of its minimum internal yield.

(b) You must ensure proper installation of casing in the subsea wellhead or liner in the liner hanger.

(1) You must ensure that the latching mechanisms or lock down mechanisms are engaged upon installation of each casing string.

(2) If you run a liner that has a latching mechanism or lock down mechanism, you must ensure that the latching mechanisms or lock down mechanisms are engaged upon installation of the liner.

(3) You must perform a pressure test on the casing seal assembly to ensure proper installation of casing or liner. You must perform this test for the intermediate and production casing strings or liner.

(i) You must submit for approval with your APD, test procedures and criteria for a successful test.

(ii) You must document all your test results and make them available to BSEE upon request.

(c) You must perform a negative pressure test on all wells that use a subsea BOP stack or wells with mudline suspension systems. The BSEE District Manager may require you to perform additional negative pressure tests on other casing strings or liners (e.g., intermediate casing string or liner) or on wells with a surface BOP stack.

(1) You must perform a negative pressure test on your final casing string or liner.

(2) You must perform a negative test prior to unlatching the BOP at any point in the well. The negative test must be performed on those components, at a minimum, that will be exposed to the negative differential pressure that will occur when the BOP is disconnected.

(3) You must submit for approval with your APD, test procedures and criteria for a successful test. If any of your test procedures or criteria for a successful test change, you must submit for approval the changes in a revised APD or APM.

(4) You must document all your test results and make them available to BSEE upon request.

(5) If you have any indication of a failed negative pressure test, such as, but not limited to pressure buildup or observed flow, you must immediately investigate the cause. If your investigation confirms that a failure occurred during the negative pressure test, you must:

(i) Correct the problem and immediately contact the appropriate BSEE District Manager.

(ii) Submit a description of the corrective action taken and you must receive approval from the appropriate BSEE District Manager for the retest.

(6) You must have two barriers in place, as required in § 250.420(b)(3), prior to performing the negative pressure test.

(7) You must include documentation of the successful negative pressure test in the End-of-Operations Report (Form BSEE-0125).

[77 FR 50892, Aug. 22, 2012]